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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/350,393	07/09/1999	RAY J. WU	19603/2760(C)	7999

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EXAMINER

COLLINS, CYNTHIA E

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/350,393	Applicant(s) WU ET AL.	
	Examiner Cynthia Collins	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 1, 2004 has been entered.

Claims 18-36 are cancelled.

Claims 1 and 5 are currently amended.

Claim 37 is newly added.

Claims 1-17 and 37 are pending and are examined.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

All previous objections and rejections not set forth below have been withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1, and claims 2-17 and 37 dependent thereon, dependent thereon, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification

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in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection. The rejected claims are directed to “a minimal promoter necessary and sufficient for promoter activity”. The limitation “necessary and sufficient for promoter activity” in reference to a minimal promoter does not find support in the specification as originally filed, and thus constitutes new matter.

Claim 1, and claims 2-17 and 37 dependent thereon, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection. The rejected claims are directed to an expression cassette wherein the components “are operably linked together to permit expression in leaves or roots of the plant”. The limitation “are operably linked together to permit expression in leaves or roots of the plant” in reference to the operable linkage of the expression cassette components does not find support in the specification as originally filed, and thus constitutes new matter.

Claims 1-10, 12-14, 16-17 and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled

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in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

The claims are drawn to a method for conferring tolerance to salt stress and drought stress in a monocotyledonous plant comprising: transforming the monocotyledonous plant with an expression cassette comprising at least one abscisic acid response complex unit of undefined structure obtained from any source, including at least one abscisic acid response complex unit of undefined structure obtained from a barley HVA22 gene or a barley HVA1 gene, a minimal promoter of undefined structure obtained from any source that is necessary and sufficient for promoter activity, including a minimal promoter of undefined structure that is Act1-100 of rice, a truncated α -amylase promoter of barley, a truncated α -amylase promoter of rice, a truncated maize ubiquitin promoter, and a truncated CaMV 35S promoter, a DNA molecule that increases tolerance to salt stress and drought stress in plants, wherein the at least one abscisic acid response complex unit, the minimal promoter, and a DNA molecule are operably linked together in an unspecified manner to permit expression of the DNA molecule in leaves or roots of the plant, and further comprising an Hva22 intron of undefined structure at an unspecified location, and expressing the DNA molecule in the monocotyledonous plant to confer tolerance to salt stress and drought stress in the plant.

The specification describes methods for conferring tolerance to salt stress and drought stress in rice plants by transforming the plants with expression cassettes comprising as operably linked components in specific order (i) four abscisic acid response complex units obtained from the barley HVA22 gene, an Act1-100 minimal promoter (-100 to +80) obtained from the rice Act1 gene, an intron 1 -exon 2 -intron 2 fragment from the barley HVA22 gene, and a DNA

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molecule encoding P5CS obtained from mothbean (pJS112), (ii) one abscisic acid response complex unit obtained from the barley HVA22 gene, an Act1-100 minimal promoter (-100 to +80) obtained from the rice Act1 gene, an intron 1 -exon 2 -intron 2 fragment from the barley HVA22 gene, and a DNA molecule encoding HVA1 obtained from barley (pJP21), and iii) a nuclear matrix attachment region, one abscisic acid response complex unit obtained from the barley HVA22 gene, an Act1-100 minimal promoter (-100 to +80) obtained from the rice Act1 gene, an intron 1 -exon 2 -intron 2 fragment from the barley HVA22 gene, and a DNA molecule encoding HVA1 obtained from barley (pJPM001) (Figure 1 and pages 18-30). The specification does not describe methods for conferring tolerance to salt stress and drought stress in rice plants by transforming the plants with expression cassettes comprising other abscisic acid response complex units of different structure obtained from other sources, or other minimal promoters of different structure obtained from other sources that have been truncated, or other HVA22 introns. The specification also does not describe methods for conferring tolerance to salt stress and drought stress in rice plants by transforming the plants with expression cassettes comprising the recited components operably linked in other configurations, or operably linked to permit expression of the DNA molecule in leaves or root of the plant.

The Federal Circuit has recently clarified the application of the written description requirement. The court stated that “A description of a genus of cDNAs may be achieved by means of recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to members of the genus, which features constitute a substantial portion of the genus.” See *University of California v. Eli Lilly and Co.*, 119 F.3d 1559, 1569; 43 USPQ2d 1398, 1406 (Fed. Cir. 1997). In

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the instant case Applicant has not described a representative number of species falling within the scope of the claimed genus of expression cassettes whose components are operably linked to both permit expression of a DNA molecule in leaves or root of the plant and confer tolerance to salt stress and drought stress in the plant upon expression of said DNA molecule, nor the structural features unique to the genus.

Claims 1-10, 12-14, 16-17 and 37 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods for conferring tolerance to salt stress and drought stress in a monocotyledonous plant comprising transforming the monocotyledonous plant with the exemplified expression cassettes contained in plasmids pJS112, pJP21, and pJPM001, does not reasonably provide enablement for other methods that require transforming monocotyledonous plants with other expression cassettes. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and or use the invention commensurate in scope with these claims.

The claims are drawn to a method for conferring tolerance to salt stress and drought stress in a monocotyledonous plant comprising: transforming the monocotyledonous plant with an expression cassette comprising at least one abscisic acid response complex unit of undefined structure obtained from any source, including at least one abscisic acid response complex unit of undefined structure obtained from a barley HVA22 gene or a barley HVA1 gene, a minimal promoter of undefined structure obtained from any source that is necessary and sufficient for promoter activity, including a minimal promoter of undefined structure that is Act1-100 of rice, a truncated α -amylase promoter of barley, a truncated α -amylase promoter of rice, a truncated

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maize ubiquitin promoter, and a truncated CaMV 35S promoter, and a DNA molecule that increases tolerance to salt stress and drought stress in plants, wherein the at least one abscisic acid response complex unit, the minimal promoter, and a DNA molecule are operably linked together in an unspecified manner to permit expression of the DNA molecule in leaves or roots of the plant, and further comprising an Hva22 intron of undefined structure at an unspecified location, and expressing the DNA molecule in the monocotyledonous plant to confer tolerance to salt stress and drought stress in the plant.

The specification discloses methods for conferring tolerance to salt stress and drought stress in rice plants by transforming the plants with expression cassettes comprising as operably linked components in specific order (i) four abscisic acid response complex units obtained from the barley HVA22 gene, an Act1-100 minimal promoter (-100 to +80) obtained from the rice Act1 gene, an intron 1 -exon 2 -intron 2 fragment from the barley HVA22 gene, and a DNA molecule encoding P5CS obtained from mothbean (pJS112), (ii) one abscisic acid response complex unit obtained from the barley HVA22 gene, an Act1-100 minimal promoter (-100 to +80) obtained from the rice Act1 gene, an intron 1 -exon 2 -intron 2 fragment from the barley HVA22 gene, and a DNA molecule encoding HVA1 obtained from barley (pJP21), and iii) a nuclear matrix attachment region, one abscisic acid response complex unit obtained from the barley HVA22 gene, an Act1-100 minimal promoter (-100 to +80) obtained from the rice Act1 gene, an intron 1 -exon 2 -intron 2 fragment from the barley HVA22 gene, and a DNA molecule encoding HVA1 obtained from barley (pJPM001) (Figure 1 and pages 18-30). The specification does not disclose methods for conferring tolerance to salt stress and drought stress in rice plants by transforming the plants with expression cassettes comprising other abscisic acid response

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complex units of different structure obtained from other sources, or other minimal promoters of different structure obtained from other sources, or other Hva22 introns. The specification also does not disclose methods for conferring tolerance to salt stress and drought stress in rice plants by transforming the plants with expression cassettes comprising the recited components operably linked in other configurations, or operably linked to permit expression of the DNA molecule in leaves or root of the plant.

Guidance for making and using the claimed invention is necessary for enablement because the ability of the claimed polynucleotide components to permit expression of a DNA molecule in leaves or roots and to express a DNA molecule in a manner that confers tolerance to salt stress and drought stress is unpredictable. Polynucleotides having the recited expression cassette components of undefined structure and/or obtained from undefined sources operably linked in an unspecified manner cannot predictably be assumed to exhibit the recited expression activities because polynucleotides that express DNA molecules in a particular manner require the presence of specific and discrete cis acting nucleotides, operably linked in a particular sequence and in a particular location relative to each other, in order to function as claimed.

See, for example, Shen et al. (The Plant Cell, Vol. 8, pages 1107-1119, July 1996, Applicant's IDS) who teach that the abscisic acid response complexes of the barley HVA1 gene and the barley HVA22 gene exhibit different specific structural arrangements, as well as functional differences. Shen et al. teach that the abscisic acid response complex of the barley HVA1 gene consists of a 10 base pair box with an ACGT core (ACGT-box) and the 11 base pairs directly upstream (coupling element 3), whereas the abscisic acid response complex of the barley HVA22 gene consists of a 10 base pair box with an ACGT core (ACGT-box) and a

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different 9 base pair sequence located 20 base pairs downstream (coupling element 1) (page 1107 abstract; page 1109 column 1 second full paragraph). Shen et al. also teach that the coupling elements of the two abscisic acid response complexes are not fully interchangeable, as coupling element 3 can function either proximal or distal to the ACGT-box, whereas coupling element 1 can function only distally (page 1107 abstract). Furthermore, Shen et al. teach that expression of the maize VP1 transcription factor activates the HVA1 abscisic acid response complex but not the HVA22 abscisic acid response complex in barley aleurone layers, and that the maize VP1 transcription factor and abscisic acid have a synergistic effect on the HVA1 abscisic acid response complex, but not on the HVA22 abscisic acid response complex (page 1109 column 2 first full paragraph). See also, for example, Shen et al. (*The Plant Cell*, Vol. 7, pages 295-307, March 1995, Applicant's IDS) who teach that high levels of ABA induction of constructs comprising the HVA22 abscisic acid response complex required the additional presence in the construct of the intron 1- exon 2- intron 2 fragment from the HVA22 gene (page 299 Figure 4).

Given the unpredictability of to expressing a DNA molecule that increases tolerance to salt stress and drought stress in plants in leaves or roots in a manner that confers tolerance to salt stress and drought stress by expressing that DNA molecule as a part of an expression cassette comprising multiple components required for expression, given the limited number and variety of working examples of expression cassettes, and given the breadth of the claims which encompass expression cassettes comprising at least one abscisic acid response complex unit of undefined structure obtained from any source and a minimal promoter of undefined structure obtained from any source operably linked together with said DNA molecule in an unspecified manner, and further comprising at an unspecified location an Hva22 intron of undefined

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structure, it would require undue experimentation by one skilled in the art to develop and evaluate the full scope of the claimed expression cassettes.

Claim Rejections - 35 USC § 112

Claim 1, and claims 2-17 dependent thereon, remain rejected, and claim 37 dependent thereon is rejected, under 35 U.S.C. 112, second paragraph, as being indefinite in the recitation of minimal promoter, for the reasons of record set forth in the office action mailed February 10, 2003.

Applicant's arguments filed March 1, 2004, have been fully considered but they are not persuasive.

Applicant argues that the rejection should be withdrawn in view of the amendment of claim 1, which now recites “a minimal promoter necessary and sufficient for promoter activity” (reply page 5)

The amendment of claim 1 to recite “a minimal promoter necessary and sufficient for promoter activity” does not sufficiently define the metes and bounds of claim 1, because the limitation “necessary and sufficient for promoter activity” in reference to a minimal promoter does not find support in the specification as originally filed, and because it is unclear how the limitation “necessary and sufficient for promoter activity” distinguishes the minimal promoter of claim 1 from other promoters, as any “promoter” polynucleotide is presumed to be “necessary and sufficient for promoter activity”.

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Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 5 is indefinite in the recitation of "truncated", because the nature and extent of the truncations are unclear.

Claim Rejections - 35 USC § 102

Claims 1-4, 7 and 9 remain rejected under 35 U.S.C. 102(b) as being anticipated by Wu et al. (Abstract 113, General Meeting of The International Program on Rice Biotechnology, September 15-17, 1997, Applicant's IDS), for the reasons of record set forth in the office action mailed February 10, 2003.

Applicant's arguments filed March 1, 2004, have been fully considered but they are not persuasive.

Applicant argues that Wu 1 neither discloses nor suggests an expression cassette comprising at least one ABRC unit, a minimal promoter necessary and sufficient for promoter activity, and a DNA molecule that increases tolerance to salt stress and drought stress in plants, as required by the claims of the present application. In particular, the claims of the present invention require a composite inducible promoter which includes at least one ABRC unit and a minimal promoter necessary and sufficient for promoter activity. Wu 1 merely discloses an ABA-inducible promoter.

The Office maintains that Wu 1 does disclose an expression cassette comprising at least one ABRC unit, a minimal promoter necessary and sufficient for promoter activity, and a DNA molecule that increases tolerance to salt stress and drought stress in plants, as required by the

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claims of the present application. The ABA-inducible promoter disclosed by Wu et al. is a composite inducible promoter which includes at least one ABRC unit and a minimal promoter necessary and sufficient for promoter activity because all inducible promoters are inherently composite in nature, because any promoter polynucleotide is presumed to be "necessary and sufficient for promoter activity", and because an ABA-inducible promoter is presumed to comprise at least at least one ABRC unit.

Applicant also points to the submitted Declaration of Ray J. Wu Under 37 C.F.R. 1.132 ("Wu Declaration"), and points in particular to paragraph 6, where it is asserted that the disclosure of an ABA-inducible promoter in Wu 1 would not necessarily teach or suggest a composite promoter, as claimed in the present application, since numerous non-composite, ABA-inducible promoters exist in nature, where it is asserted that a naturally occurring ABA-inducible promoter does not necessarily function in the same way as an ABRC composite promoter, where it is asserted that a naturally occurring ABA-inducible promoter, such as the Hva22 promoter from barley, is a seed specific ABA-inducible promoter and thus not suitable for driving the expression of a foreign gene to confer stress tolerance to a plant because in order to make a plant tolerant to abiotic stresses, the DNA molecule that increases tolerance to salt stress and drought stress needs to be expressed in the leaves and roots of the plant. (reply pages 5-6)

With respect to paragraph 6 of the Wu Declaration and the assertion that the disclosure of an ABA-inducible promoter in Wu 1 would not necessarily teach or suggest a composite promoter, the Office maintains its position that all inducible promoters are inherently composite in nature.

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With respect to paragraph 6 of the Wu Declaration and the assertion that a naturally occurring ABA-inducible promoter does not necessarily function in the same way as an ABRC composite promoter, the Office notes that the Declarant does not assert that the promoter disclosed in the cited reference does not function in the same way as an ABRC composite promoter. Furthermore, the rejected claims are not drawn to “an ABRC composite promoter”.

With respect to paragraph 6 of the Wu Declaration and the assertion that a naturally occurring ABA-inducible promoter, such as the Hva22 promoter from barley, is a seed specific ABA-inducible promoter and thus not suitable for driving the expression of a foreign gene to confer stress tolerance to a plant because in order to make a plant tolerant to abiotic stresses, since the DNA molecule that increases tolerance to salt stress and drought stress needs to be expressed in the leaves and roots of the plant, the Office notes that the Declarant does not assert that the promoter disclosed in the cited reference is a naturally occurring ABA-inducible promoter, or that the promoter disclosed in the cited reference is an Hva22 promoter from barley. The Office further notes that the cited reference discloses in lines 13-19 that “water-stress- or salt-stress-tolerant transgenic rice plants have been produced”, and that “constitutive or ABA-inducible promoters have been used to drive these genes”, indicating that the promoter referred to in the cited reference is suitable for driving the expression of a foreign gene to confer stress tolerance to a plant.

Applicant further points to paragraph 7 of the Wu Declaration where it is asserted that a composite promoter including an ABRC unit and minimal promoter necessary and sufficient for promoter activity, as claimed in the present application, functions in the leaves and/or roots of a transgenic plant such that the inserted DNA molecule that increases tolerance to salt stress and

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drought stress in plants can be expressed in the leaves and/or roots of the transgenic plant to protect the plant from these abiotic stresses in accordance with the present invention, and that as Wu l merely discloses an "ABA-inducible" promoter, it does not teach or suggest an ABRC composite promoter including at least one ABRC unit and a minimal promoter necessary and sufficient for promoter activity which can be used to express an inserted DNA molecule in the leaves and/or roots of a plant, as required by claims 1-17 and 37 of the present application.

The Office maintains its position that Wu l does disclose an expression cassette comprising at least one ABRC unit, a minimal promoter necessary and sufficient for promoter activity, and a DNA molecule that increases tolerance to salt stress and drought stress in plants, as discussed above.

Applicant also argues that the mere disclosure of an "ABA-inducible" promoter is not sufficient to enable one of ordinary skill in the art to confer tolerance to salt stress and drought stress in a monocotyledonous plant as claimed in the present application. (reply page 6)

The Office maintains that the cited reference is enabling, as the cited reference discloses in lines 13-19 that "water-stress- or salt-stress-tolerant transgenic rice plants have been produced", and that "constitutive or ABA-inducible promoters have been used to drive these genes", these genes having been identified as a barley late embryogenesis protein Hva1, a cold and salt stress resistance gene COR47, a mannitol 1-P dehydrogenase gene mtID, and a P5CS gene that encodes a key proline biosynthesis enzyme.

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Claim Rejections - 35 USC § 103

Claims 1-4, 7-10, 12-14 and 16-17 remain rejected under 35 U.S.C. 103(a) as being unpatentable over of Wu et al. (Abstract 113, General Meeting of The International Program on Rice Biotechnology, September 15-17, 1997, Applicant's IDS) in view of Applicant's admitted prior art, for the reasons of record set forth in the office action mailed February 10, 2003.

Applicant's arguments filed March 1, 2004, have been fully considered but they are not persuasive.

Applicant argues that the claims are not unpatentable over Wu et al. for the reasons set forth under 35 U.S.C. 102(b) above (reply page 6).

The Office maintains that the claims are unpatentable over Wu et al. for the reasons set forth under 35 U.S.C. 102(b) above.

Remarks

No claim is allowed.

Claims 11 and 15 would be allowable if rewritten in independent form to overcome the new matter rejections of claim 1 and the rejection of claim 1 under 35 U.S.C. 112, second paragraph, set forth in this Office action, and to include all of the limitations of the base claim and any intervening claims.

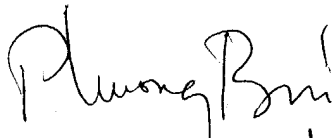
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (571) 272-0794. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cynthia Collins


PHUONG T. BUI 5/17/04
PRIMARY EXAMINER